

2017 DOE Vehicle Technologies Office Annual  
Merit Review and Peer Evaluation Meeting

# Aggregated Alternative Technology Alliance

Principal Investigator: Leslie Wollack

Presenter: Philip Kreycik

Meister Consultants Group

June 8, 2017

Project ID: TI077



# Overview

## Timeline

- Start: March 15, 2016
- End: March 14, 2018
- 60% Complete

## Barriers Addressed

- High upfront cost of alternative fuel vehicles and electric vehicles
- Consumers' reluctance to purchase new technologies
- Consumers' lack of technical experience with new fuels and vehicle technologies
- Manufacturers' concerns about demand

## Budget

- Total project funding: **\$2,224,651**
  - DOE share: \$1,758,600
  - Cost share: \$466,051
- Funding received in FY 2016 \$210,616
- Funding for FY 2017 \$365,541
- Spent: \$738,280 (as of 4/10/17)

## Partners

- National Association of Regional Councils
- Meister Consultants Group
- National Joint Powers Alliance
- 5 Regional Planning Councils
- 9 Clean Cities Coalitions
- Technical Experts



# Project Objectives

## Objectives

- **Aggregate regional and national demand** for propane, electric, and natural gas powered vehicles and refueling or charging infrastructure
- **Reduce the cost** of these vehicles for private and public fleets using bulk cooperative procurement to obtain competitive pricing
- **Develop best practices guides** and **create procurement templates** to assist regions in implementing cooperative procurements of these vehicles
- Plan and implement **five regional procurements** and **one national scale procurement**
- Develop a web-based tool kit to educate public fleets and procurement officers, and **enable future cooperative procurement initiatives**

## Supports these DOE VT Office Goals

- Support Pioneering Deployments of Market-Ready Vehicles and Alternative Fuels in Key Early Markets
- Provide Best Practices, Objective Data, and Informational Materials to Potential End-Users and Investors to Promote Acceptance of Advanced Vehicles and Alternative Fuels

# Project Approach

The Aggregated Alternative Technology Alliance, known as Fleets for the Future (F4F), is a national partnership between regional councils, Clean Cities Coalitions, and industry leaders led by the National Association of Regional Councils aiming to increase the deployment of alternative fuel vehicles and infrastructure.

## **Task 1: Create Replicable Procurement Best Practices and Templates, Complete**

- Review current research and best practices and convene technical leads to develop key best practices for alternative fuel vehicle deployment and procurement. Develop and finalize templates for regional and national procurements.

## **Task 2: Launch pilot procurement program in the Kansas City metro region, Complete**

- Develop and launch pilot program with the Mid-America Regional Council and Metropolitan Energy Center in Kansas City, MS early in Year 1 and document results of the program and outreach success.

# Project Approach

## **Task 3: Design and deploy regional procurement initiatives, Ongoing**

- Design and implement a procurement initiative in each of the four regions, Boston, MA; Dallas-Ft. Worth, TX; Tucson, AZ; Washington, DC; and provide training opportunities and a marketing strategy in each region.

## **Task 4: Design national procurement initiative with business plan for implementation, Ongoing**

- Consult subject matter experts and convene expert panel to develop a business plan and implementation strategy for national procurement initiative.
- Create relationships on both the public and private side for launching the national procurement and implementing a nationwide outreach plan.

## **Task 5: Collect data and results of both the regional and national procurements to evaluate success**

- Report quantitative and qualitative data from regional campaigns, including number of vendors, contracts and sales projections as well as the results of outreach and education campaigns for the national initiative.

# Milestones

## Year 1

Milestone description	Date
<b>Communications plan:</b> Detailed strategy with key deliverables, quantifiable goals targets, and outlined implementation and review tasks identified	Aug 2016
<b>Regional procurement plans:</b> Detailed plans that outline target audience, potential vendors, implementation steps and success indicators	Varied: Oct '16 – Apr '17
<b>National procurement plan:</b> Detailed strategy with key deliverables, quantifiable goals targets, and outlined implementation and review tasks identified	Dec 2016
<b>Outreach and education strategic plan:</b> Detailed strategy with key deliverables, quantifiable goals targets, and outlined implementation and review tasks identified	Aug 2016
<b>Results of initial pilot program</b> and outreach campaign project success: Substantive review of planning documented success of pilot procurement process and initial outreach campaign.	Go/ No Go Mar 2017

## Year 2

Milestone description	Date
<b>Report section:</b> Results of outreach and education campaigns in 5 large regions. Number of contacts, campaign specifics, outcomes	Final Rpt
<b>Report section:</b> Detailed quarterly reports highlighting key deliverables, quantifiable results, and supplemental materials from 6 procurement campaigns	Final Rpt
<b>Report section:</b> Results of outreach and education campaigns in national initiative. Number of contacts, campaign specifics, outcomes	Final Rpt
<b>Report section:</b> Qualitative and qualitative data from regional campaigns, including number of vendors, contracts, cost savings and sales projections.	Final Rpt

# Resources

- F4F has leveraged the resources and networks of its 9 Clean Cities members to spread the word about its procurement activities.
- F4F has promoted U.S. DOE-developed resources in its web-based toolkit including the AFDC Alternative Fueling Station Locator, the AFLEET tool, the Vehicle Cost Calculator widget, and Clean Cities Coalition publications and guides.
- F4F is collaborating with and learning from another DOE VT Office project, the EV Smart Fleets project.
- The team has leveraged significant cost-share from subs and industry partners.
  - \$162,122 in cost share documented through Budget Period 1 (>20% match)

# Project Accomplishments and Progress

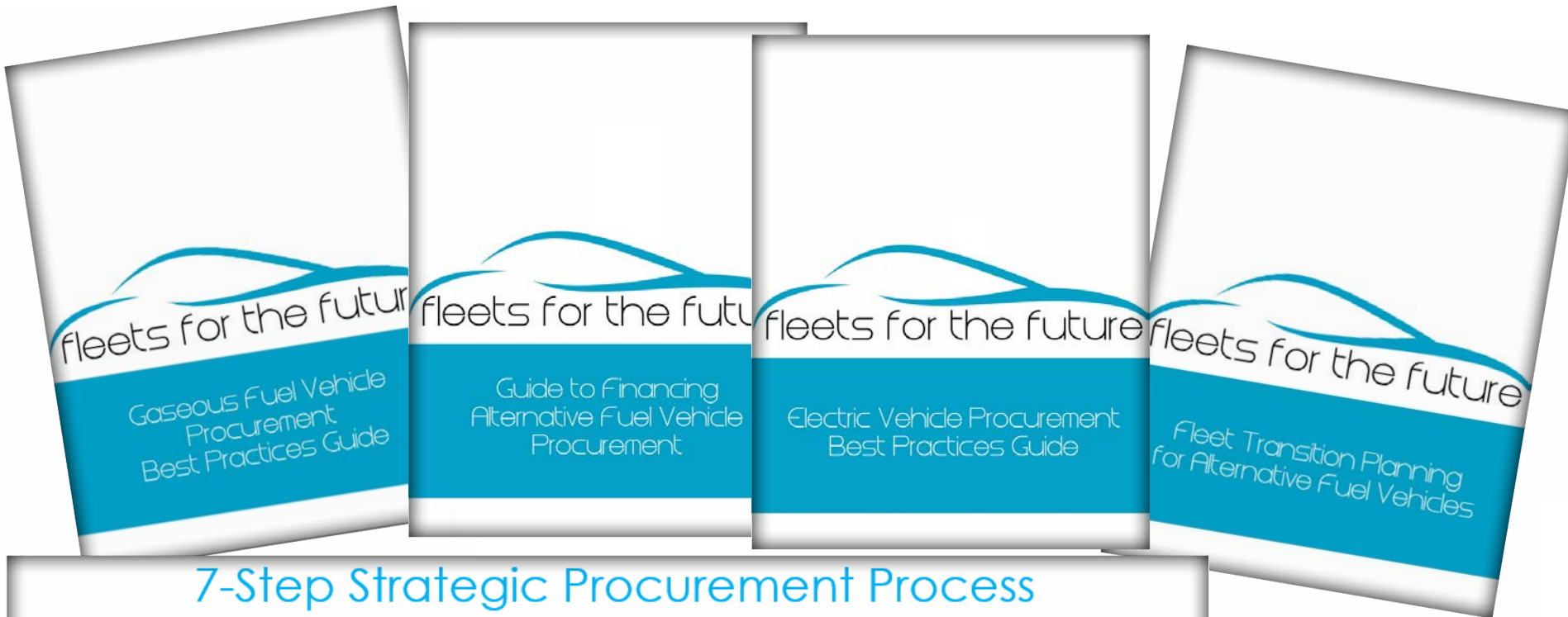
## Task 1: Create Replicable Procurement Best Practices and Templates, Complete

Accomplishment	Status	Next Steps
Review research and procurement models	Completed September 2016	
Write best practice guides for each fuel	Completed October 2016	Continue promotion
Write best practice guides on financing and AFV transition planning	Completed October 2016	Continue promotion
Develop cooperative procurement bootcamp curriculum and training materials (PPT)	Completed January 2016	Continue to use at additional bootcamps
Develop template stakeholder survey, template Gantt chart planning tool, template RFI for potential bidders	Completed December 2016 - January 2017	Continue promotion

Any proposed future work is subject to change based on funding levels.

# Project Accomplishments and Progress

## Task 1: Create Replicable Procurement Best Practices and Templates, Complete



### 7-Step Strategic Procurement Process



# Project Accomplishments and Progress

## Task 2: Launch pilot procurement program in the Kansas City metro region, Complete

Accomplishment	Status	Next Steps
Convene stakeholder group	Complete	
Draft specs and add AFV options to the Kansas City Regional Cooperative Program (KCRCP) vehicle bid	Complete	
Award contracts and inventory the AFV options newly available on KCRCP contract	Complete	
Ongoing outreach promoting AFV contracts through diverse communication channels	Extensive promotion already conducted	Continued promotion
Launch multiple EV group buys with local collaborators	One campaign concluded, another soon starting	Document the results
Share lessons learned: procurement planning guidance and AFV specs	Resources have been shared with project team	Share data on contract usage as it becomes available

Any proposed future work is subject to change based on funding levels.

# Project Accomplishments and Progress

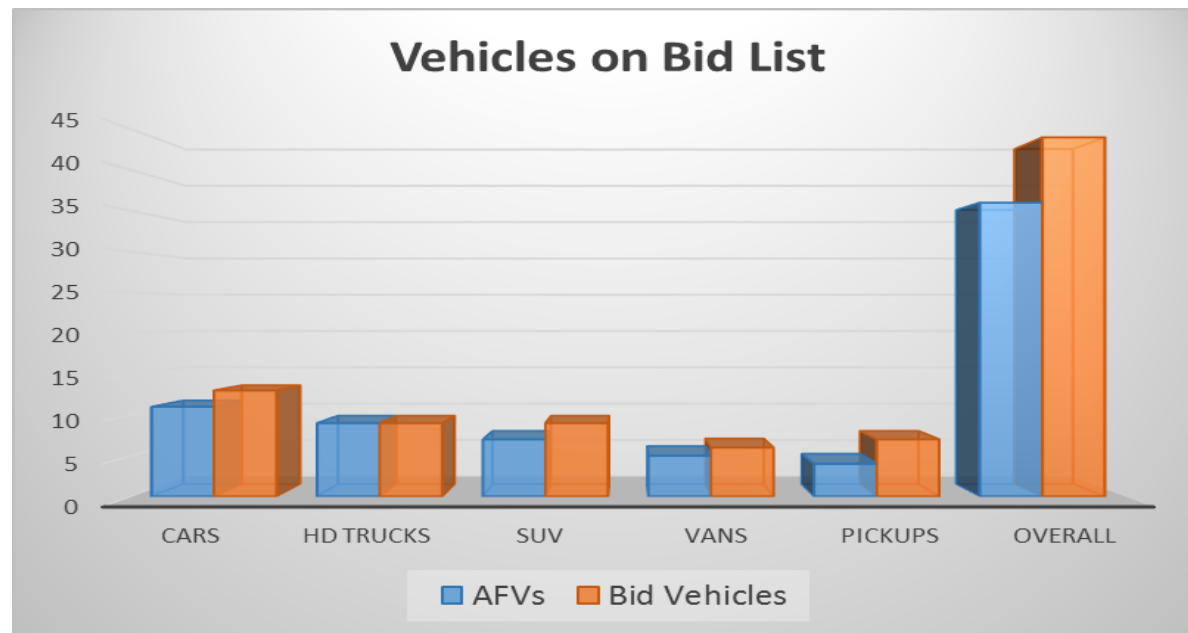
## Task 2: Kansas City Pilot Procurement: Sample vehicle types under contract through Fleets for the Future

FULL VEHICLE LIST - ALTERNATIVE FUEL OPTIONS BY TYPE								
	Line #	Description	Weight	E85	CNG	LPG	B20	HEV
H D  T r u c k	1	Item No. 1 - Type: FULL-SIZE VAN CUTAWAY CAB & CHASSIS - Make Equal To: E-Series, G-Series, Freightliner, Mercedes, Ram Promaster.	MD	X	X	X		
	2	Item No. 2 - Type: 1-TON CAB & CHASSIS - Make Equal to C3500, F350, Ram 3500	MD		X	X	X	
	3	Item No. 3 - Type: 15,000 GVWR CAB & CHASSIS. State Make & Model	MD		X	X		
	4	Item No. 4 - Type: 17,500 GVWR CAB & CHASSIS. State Make and Model.	MD		X	X		
	5	Item No. 5 - Type: 21,000 GVWR CAB & CHASSIS. State Make and Model.	MD		X	X	X	
	6	Item No. 6 - Type: 29,000 GVWR CAB & CHASSIS. State make and Model.	HD		X	X	X	
	7	Item No. 7 - Type: 34,000 GVWR CAB & CHASSIS. State make and Model.	HD		X	X	X	
	8	Item No. 8 - Type: 56,000 GVWR CAB & CHASSIS. State Make and Model.	HD		X		X	
	9	Item No. 9 - Type: 66,000 GVWR CAB & CHASSIS. State Make and Model.	HD		X		X	
S e d a n	10	Item No. 10 - Type: SUBCOMPACT SEDAN - Civic, Versa, Fiesta, or equal	LD					
	11	Item No. 11 Type: COMPACT SEDAN - Focus, Cruze, Dart, Corolla or equal.	LD	X				
	12	Item No. 12Type: MID-SIZE SEDAN - FRONT WHEEL DRIVE - Malibu, Fusion, Avenger or equal	LD					X
	13	Item No. 13Type: FULL-SIZE SEDAN, FRONT WHEEL DRIVE - Taurus, Impala or equal	LD	X				
	14	Item No. 14 - Type: FULL-SIZE SEDAN - REAR WHEEL DRIVE - Charger or equal	LD	X				
S U V	15	Item No. 15 - Type: SUB-COMPACT UTILITY VEHICLE 4X4 - Escape, Cherokee, Equinox	LD	X				
	16	Item No. 16 - Type: COMPACT UTILITY VEHICLE 4X4 - Model Equal To Grand Cherokee, Explorer, Durango.	LD	X				
	17	Item No. 17 - Type: FULL SIZE UTILITY VEHICLE 4X4 - Tahoe, Yukon, Expedition or equal	LD	X				
	18	Item No. 18 - Type: LARGE SIZE UTILITY VEHICLE 4X4 - Suburban, Yukon XL, Expedition XL or equal-base dcor	LD	X				
P i c k u p	19	Item No. 19 - Type: COMPACT PICKUP, Cab "A", 4x2 - Frontier, Tacoma or equal. (No Bids were given)	LD					
	20	Item No. 20 - Type: MIDSIZE PICKUP, 4X2, CAB "A". Make Equal To Colorado, Canyon or equal.	LD					
	21	Item No. 21 - Type: PICKUP, 1/2 TON, CAB "A", 4X2. Make Equal To C1500, F-150, Ram 1500, Tundra	LD	X	X	X		
	22	Item No. 22 - Type: PICKUP, 3/4-TON, CAB "A", 4X2. Make Equal To C2500, F-250, Ram 2500.	MD	X	X	X		
	23	Item No. 23 - Type: 1-TON PICKUP, CAB "A", 4X2. State make & model C3500, F350, Ram 3500 or equal.	MD	X	X	X		
	24	Item No. 24 - Type: MINI-VAN - PASSENGER. Make Equal To Grand Caravan, Odyssey, Transit Connect.	LD	X	X			

The above list is not comprehensive of the alt fuel types, nor is it comprehensive of the vehicle platforms on contract. For more details, visit <http://www.marc.org/Environment/Energy/pdf/Cheat-sheets-AFV.pdf>

# Project Accomplishments and Progress

## Task 2: Kansas City Pilot Procurement: The number of platforms with AFV options versus total number of platforms



- 35 of the 44 vehicle models include an AFV option
- >6 dealerships provided bids on NGVs, PHEVs, FFVs, and biodiesel vehicles
- 3 dealerships provided bids on LPG vehicles

# Project Accomplishments and Progress

## Task 2: Kansas City Pilot Procurement: EV Group Buy

**EV Group Buy:** The first phase of the metro-wide group buy for the Nissan LEAF took place between Nov. 21 and Jan 3, 2017. Five area dealerships participated in sales training and outreach. Two dealerships participated in ride & drives.

### Partners:

- Metropolitan Energy Center/KC Clean Cities
- City of Kansas City
- Kansas City Power & Light (KCP&L)
- 5 area dealerships

### Results:

- 87% increase in year-over-year LEAF sales during the quarter
- More than 100 LEAFs purchased over 45 days
- Extended by KCP&L through March 31 (results not yet available)
- Follow up campaign planned through University of Missouri - Kansas City, April 17-May 31

# Project Accomplishments and Progress

## Task 3: Design and deploy regional procurement initiatives

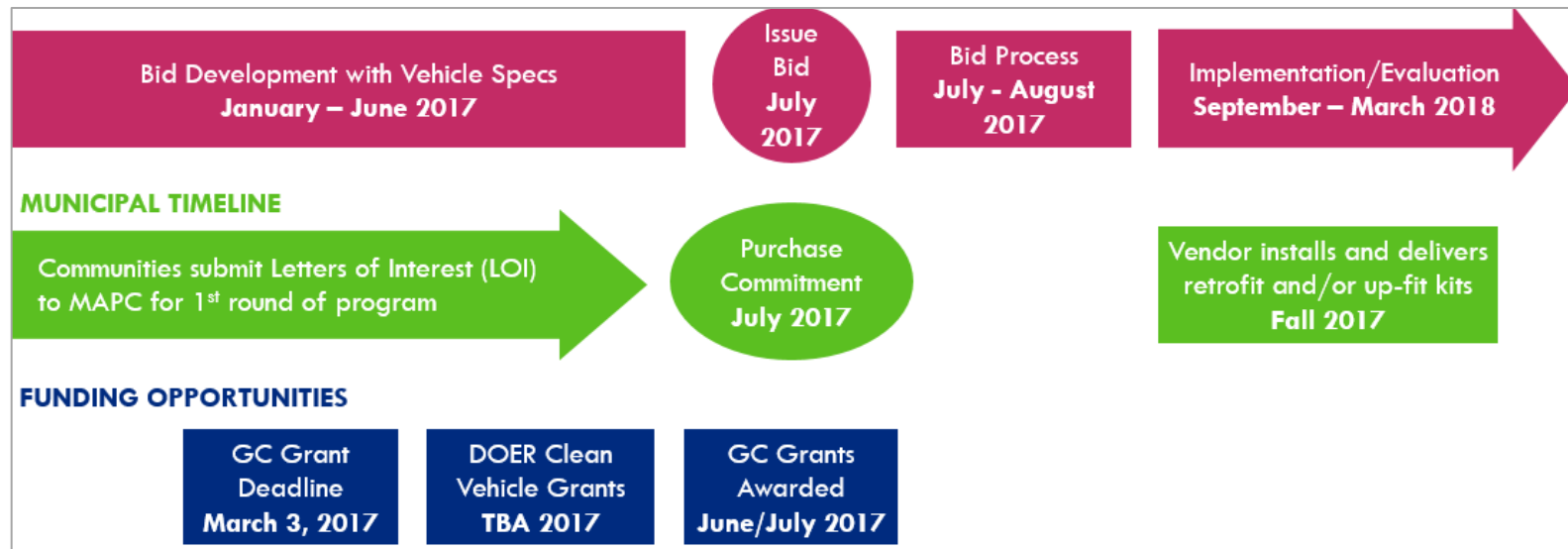
Accomplishment	Status	Next Steps
Convene stakeholder group, survey potential participants, and conduct gap analysis	Complete, all regions	
Finalize a list of vehicle platforms, identify requirements, and finalize specifications	Complete, all regions	
Conduct educational bootcamps for fleets and procurement officers	3 bootcamps hosted through 4/10/17	Host three more bootcamps in participating regions.
Secure soft commitments from participating fleets for specific AFV platform purchases	Complete in some regions, planned in others	Leverage soft commitments to show prospective bidders value, set volume tiers for pricing responses (e.g. per vehicle price for 10-20 vehicles, 20-30 vehicles, etc.)
Issue bid documents and advertise to vendors	Not yet started	Draft regionally appropriate language, gather feedback, inform ecosystem of dealers and retrofit manufacturers and installers
Contract execution by buyers or buyers' rep	Not yet started	Each region will have a different approach
Maximize contract participation and minimize dropouts	Not yet started	Conduct outreach to fleets and engage procurement committees

Any proposed future work is subject to change based on funding levels.

# Project Accomplishments and Progress

## Task 3: Region Spotlight: Greater Boston, MA

### Timeline



### Highlights

- Leverages state AFV funding opportunities
- Leverages state-wide pre-selected vendors, while soliciting better competitive pricing
- Aligns with municipalities' purchase cycles
- Focuses on medium & heavy duty vehicles

Any proposed future work is subject to change based on funding levels.

# Project Accomplishments and Progress

## Task 4: Design national procurement initiative with business plan for implementation (Public Fleets), Ongoing

Accomplishment	Status	Next Steps
Research national cooperative procurement entities and assess the value of strategic partnerships	Complete	
Meet with potential partners and select one to manage procurement processes and order fulfillment	Complete, MOU signed with NJPA	
Assess contracts available via partner, identify gaps, and fill them	In progress: added EVSE vendors, working on more	Add multiple retrofit system options for each vehicle platform
Develop mechanism for aggregating demand and encouraging fleet participation	Planned	Discuss what format and what scales of aggregation would help reduce costs of bringing vehicles to market for current NJPA vendors

Any proposed future work is subject to change based on funding levels.

# Project Accomplishments and Progress

## Task 4: Design national procurement initiative with business plan for implementation (Private Fleets), Ongoing

Accomplishment	Status	Next Steps
Research national cooperative procurement entities and assess the value of strategic partnerships	Complete	
Identify a partner best suited to develop and maintain procurement mechanism beyond time-horizon of project	In progress	Review responses to RFI
Develop mechanism for aggregating demand, implement procurement	Planned	

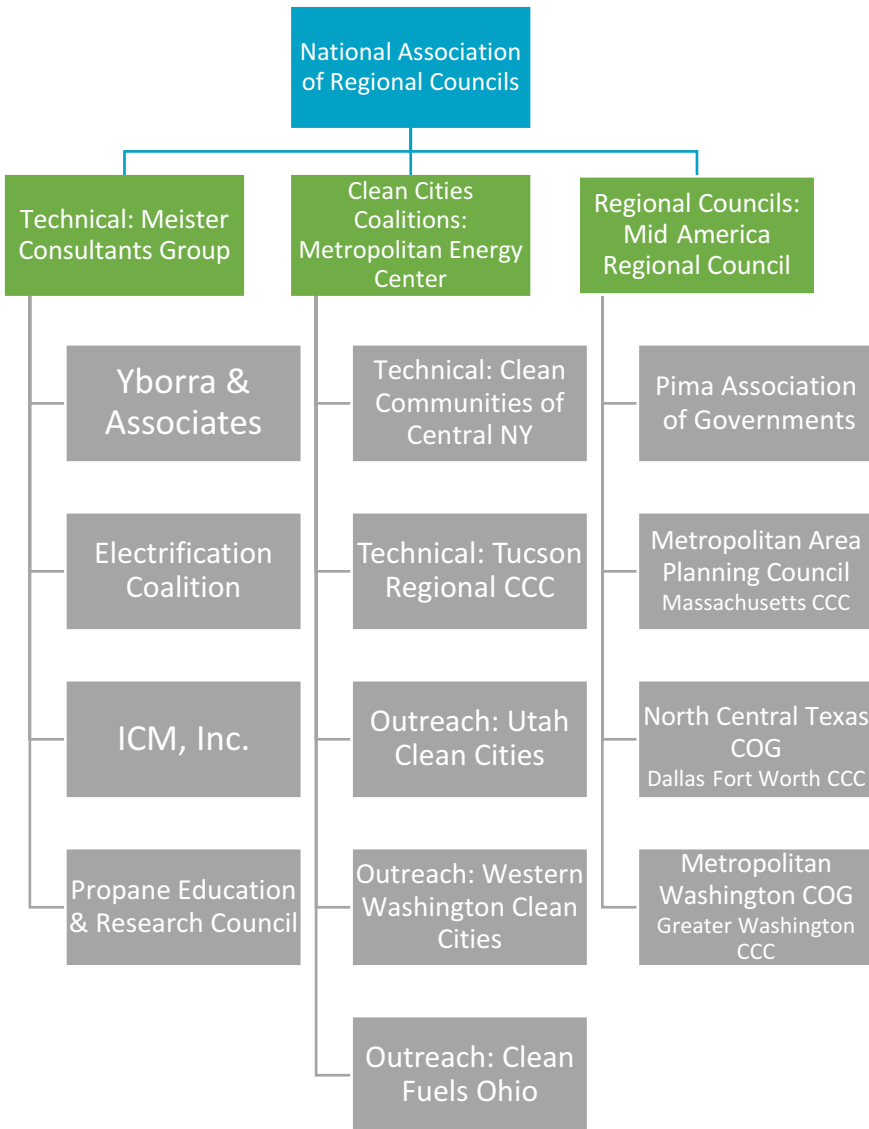
## Task 5: Collect data and results of all procurements to evaluate success

Accomplishment	Status
Develop order tracking systems and data collection methodology	In progress
Collect data for each procurement – regional, national, public, and private	In progress
Report results	Planned

Any proposed future work is subject to change based on funding levels.



# Collaboration and Coordination Among Project Team



## National Lead

The National Association of Regional Councils (NARC) provides administrative and financial oversight for the project and coordinates with DOE Project Officers.

## Regional Councils

Mid-America Regional Council completed the pilot procurement and is the lead on the national procurement. Each of the four other regions designs and implements their own procurement.

## Clean Cities Coalitions

Technical Clean Cities assist with the creation of best practices and provide technical assistance. Outreach Clean Cities promote the national procurement to public, private, and commercial fleets in their region.

## Technical Coordinators

The technical team is led by Meister Consultants Group to provide technical assistance and develop templates and best practices.

# Market Impact and Sustainability

- Survey of stakeholders across the 5 participating regions showed interest at a scale that will drive bulk discounts:
  - **124 fleets** (98 of which are public fleets)
    - **92,927 vehicles** maintained
    - **18,896 vehicle replacements** planned over 2-3 years
- National procurement mechanism will remain in place long after the project concludes
- Regional procurement teams have developed knowledge and capacity that will enable future replication
- Best practice guides enable any other region to conduct its own bulk procurement

Any proposed future work is subject to change based on funding levels.

# Summary

- F4F has written 4 best practice guides and developed several cooperative procurement templates and tools that can be used.
- F4F's regional pilot procurement resulted in dozens of AFVs being added to the KCRCP contract list and hundreds of EVs being purchased.
- F4F's regional procurement leads have engaged ~125 fleets with combined purchasing needs of up to 19,000 vehicles.
- F4F has established a partnership with NJPA that will enable and streamline cooperative purchasing of AFVs on a national scale long after the F4F project concludes.
- These efforts support DOE VT Office's goal of reducing petroleum consumption by addressing two of the biggest barriers to AFV fleet procurement – financing the additional upfront cost and gaining the technical expertise to effectively integrate AFVs into a fleet.